



## CANFD Protocol Converter

USR-CAN315/316



CANFD to Ethernet /RS485/RS232

Easy access to CAN-BUS



Industrial automation



Automotive electronics



New energy charging piles



## Product Introduction

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USR-CAN315/316 is a rail-mounted CAN (FD) to Ethernet/RS485/RS232 device . This series of products features high speed, low latency, stable performance, easy use, and high cost-effectiveness. It supports five data conversion modes: transparent conversion, transparent with ID conversion, standard protocol conversion, Modbus conversion, and custom conversion. Among these, CAN316 supports interconnection between CAN devices and serial devices, while CAN315 supports interconnection between CAN devices and Network interfaces. The device supports the CANFD protocol and is compatible with standard CAN 2.0A/2.0B protocols.

This series of products adopts industrial-grade design standards, operating stably at -40°C to 85°C. It supports a wide voltage range of 9 to 36V for terminal power supply. The baud rate range is broad, with arbitration domain baud rates ranging from 5K to 1Mbps and data domain baud rates from 100K to 5Mbps. Custom baud rates are supported, which can be calculated using the baud rate calculator on the host computer. The product supports AT commands and parameter configuration via host software, making it easy to use. It comes with a built-in 120Ω resistor, which can be quickly connected to the CAN-bus bus through a DIP switch. The product also includes mounting rails for convenient and quick installation.

## Product Features

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- Can (FD) and Ethernet/RS485/RS232 bidirectional conversion
- Supports CANFD protocol and is compatible with CAN2.0A and CAN2.0B standard protocols
- Support transparent conversion, transparent band ID conversion, protocol conversion, MODBUS RTU conversion, and custom protocol conversion
- Support TCP server, TCP client, UDP server, UDP client
- CAN315 supports CAN (FD) to Modbus TCP (master/slave)
- CAN316 supports CAN (FD) to Modbus RTU (master/slave)
- Supports 64 sending messages and 64 receiving messages
- Supports receiving only extended frames, receiving only standard frames, and receiving custom frame ID
- Supports 32 sets of custom frame ID filtering to avoid data interference
- The wide baud rate range, arbitration domain baud rate: 5K~1Mbps; data domain baud rate 100K~5Mbps
- The multi-master multi-slave function replaces the multi-channel 485 with a single CAN interface
- Supports custom baud rate, which can be calculated by the upper computer baud rate calculator
- Supports upper computer and AT instruction parameter configuration
- Supports upper computer firmware upgrade, and firmware update is more convenient
- -40°C~85°C stable operation
- The terminal resistor of 120 ohm is built in
- Supports 9-36V wide voltage input and has anti-reverse protection
- Reliable hardware protection, static protection, surge, pulse group three levels of protection
- The hardware watchdog function can automatically restart the system when it crashes, making the module more stable and reliable

## Product types choosing

Product model	Category of the product
USR-CAN316	CAN (FD) to RS485/RS232
USR-CAN315	CAN (FD) to Ethernet

## Product hardware parameters

Supply electricity	
Service voltage	DC: 9~36 V, recommended to use 12V 1A
Power consumption (CAN316)	No-load: average power consumption 43.97mA/12V, maximum power consumption: 45.76mA/12V. Full-load: average power consumption 46.26mA/12V, maximum power consumption: 48.35mA/12V.
Structure	
Size	110*27*76.1mm
Way to install	Railway installation
Reload key	Long press to restore factory Settings
Net port (CAN315)	
Network port specifications	RJ45,10/100Mbps, cross-connect adaptive
Serial port (CAN316)	
Wiring definition	RX--RS232 receiver; TX--RS232 transmitter A--RS485 A; B--RS485 B GND: Digital ground
Serial port baud rate	600-230.4K(bps)
Data bit	8
Check bit	None,Odd,Even
Stop bit	1、2
CAN port	
Wiring definition	H: CAN_H signal line connection end L: CAN_L signal line connection end GND: CAN ground signal line connection end
Arbitration Field Bit Rate	5k~1000K bps, supports custom baud rate
Data Field Bit Rate	100K~5Mbps bps, supports custom baud rate, which only takes effect when CANFD acceleration is enabled
Terminal resistance	Built-in 2 CAN bus 120 $\Omega$ terminal resistor. The resistor is connected by dialing code control. Dial any one of the dial codes to ON, and connect a 120 $\Omega$ resistor in parallel. If both dial codes are ON, connect two 120 ohm resistors in parallel
Protect	
Static electricity	GB/T 17626.2-2018, Level 3, class B, air discharge 8KV
Surge	CAN316: GB/T 17626.5-2019, Level 3, class B, power loop differential mode 1KV, CAN loop common mode 2KV CAN315: Power circuit 2kV; network port and CAN port circuit 1kV
Pulse group	CAN316: GB/T 17626.4-2018, Level 3, class B, power circuit 2KV, RS485/RS232 circuit 1KV, CAN

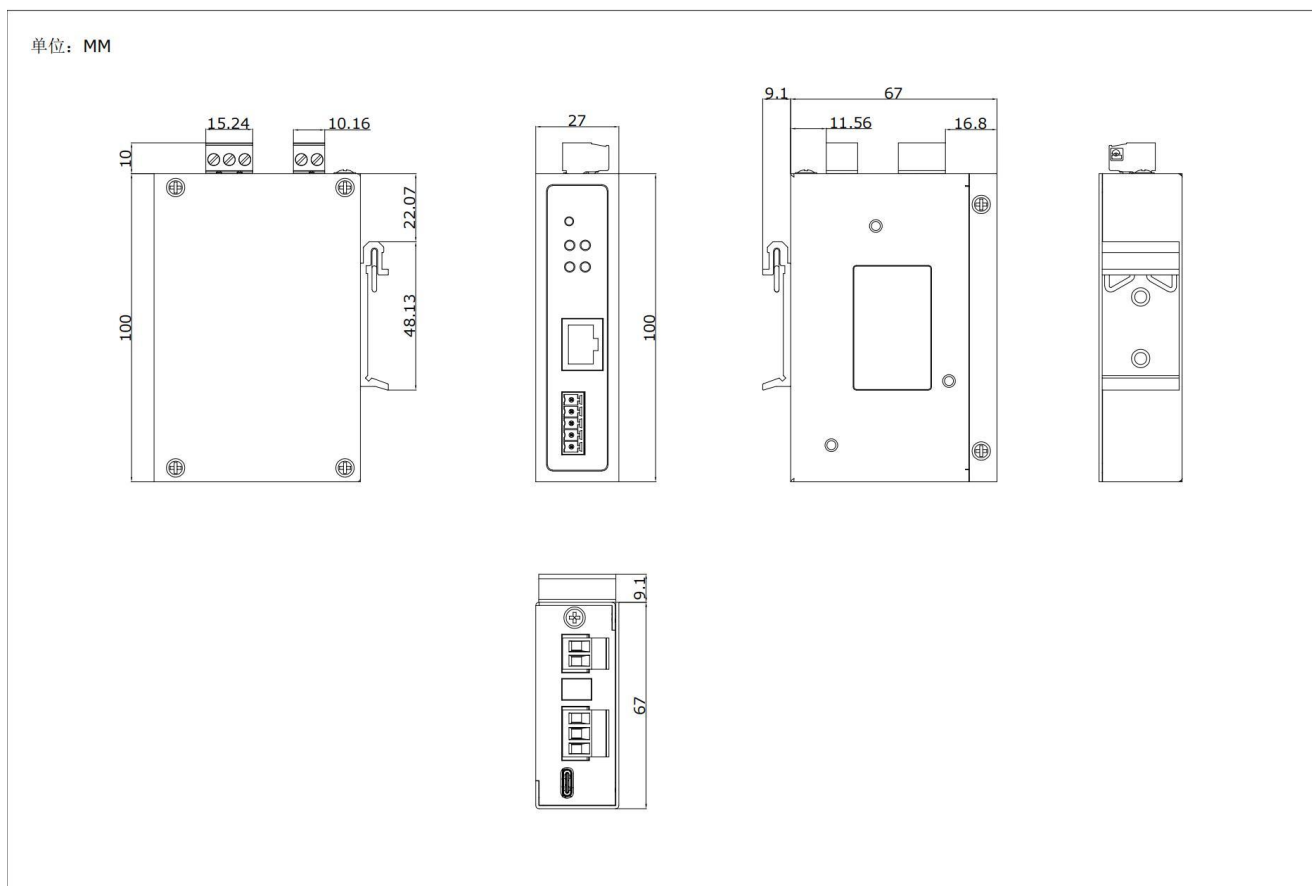
	circuit 1kV CAN315: differential mode of power circuit 1kV, common mode of power circuit 2kV; common mode of CAN port circuit 2kV; common mode of network port circuit 1kV
<b>Indicator light</b>	
Power indicator light	PWR, red indicator light. It lights up when powered on and goes out when power is cut off
Working station indicator	WORK, green indicator light. Flashing: the device is running normally, frequency 1s; flashing: enter the CAN bus passive error state; The light stays on continuously: CAN bus is running abnormally
Serial port/network port status indicator	CAN316: COM, dual-color indicator light. Green light flashing: indicates that the serial port is receiving data; Red light flashing: indicates that the serial port is sending data CAN315: NET, dual-color indicator light. Green light flashing: indicates that data is being received at the network port; Red light flashing: indicates that data is being sent at the network port
CAN port status indicator	CAN, dual-color indicator light. Green light flashing: indicates that data is being received on the CAN port; Red light flashing: indicates that data is being sent on the CAN port
<b>Work environment</b>	
Working temperature and humidity	Temperature: -40~85°C humidity: 5%~95% RH (no condensation)
Store temperature and humidity	Temperature: -40~105°C humidity: 5%~95% RH (no condensation)

## Product function parameters

<b>CAN316</b>	
CANFD quicken	Support CANFD acceleration mode
Conversion mode	Transparent conversion, transparent band ID conversion, standard conversion, modbus conversion, custom frame header and tail conversion
Change direction	Supports bidirectional conversion, only serial port to CAN, and only CAN to serial port
CAN ID	Support standard frame and extended frame
Frame ID filtering	Supports only standard frames, only extended frames, and custom input frame ID (up to 32 sets)
Serial Port Packet Length	Supports customizing the packet length
Firmware upgrade	Support the upper computer to upgrade firmware
Parameter configuration	Serial port AT command, upper computer software configuration
<b>CAN315</b>	
networking protocol	TCP server、TCP client、UDP server、UDP client
Dual-channel socket	support
Conversion mode	Transparent conversion, transparent band ID conversion, standard conversion
CAN ID	Support standard frame and extended frame
Frame ID filtering	Supports only standard frames, only remote frames, and custom input frame ID (up to 32 sets)
Pack frame time	Supports customizing the number of frames and the time of packing
Change direction	Supports bidirectional conversion, only network port to CAN, and only CAN to network port
Work pattern	Normal, loop, just listen
firmware upgrade	Support the upper computer to upgrade the firmware
Parameter configuration	Serial port AT command, upper computer software configuration

## Product Size

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## Purchase & Support

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For more information, please visit our websites:

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Official shop: <https://shop.usriot.com>

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